

CLAIMS

1. A monoclonal anti-idiotypic antibody against a human Factor VIII inhibitory antibody, the said inhibitory antibody being directed towards the C2 domain of Factor VIII.
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2. The monoclonal anti-idiotypic antibody according to claim 1, further characterised in having the ability to neutralise by at least 50% the inhibition of FVIII procoagulant activity mediated by inhibitory antibodies against the C2 domain of FVIII.
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3. The monoclonal anti-idiotypic antibody according to claim 1 or 2, which does not interfere with binding of FVIII to Phospholipids and/or vWF.
- 15 4. The monoclonal anti-idiotypic antibody according to any one of claims 1 to 3 wherein the said Factor VIII inhibitory antibody has a variable heavy chain of which the VH domains are encoded by the DP5 VH gene segment derived from the VH1 gene family.
- 20 5. The monoclonal anti-idiotypic antibody according to any one of claims 1 to 4 wherein the Factor VIII inhibitory antibody is BO2C11.
6. The monoclonal anti-idiotypic antibody according to any one of claims 1 to 4 wherein a complementary determining region of the variable heavy and light chains of said antibody has at least 70 % sequence identity to one of amino acid sequences depicted in SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8 SEQ ID NO:9 and SEQ ID NO:10.
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7. The monoclonal anti-idiotypic antibody according to any of claims 1 to 5 wherein the variable heavy chain of the said anti-idiotypic antibody is encoded by the nucleotide sequence depicted in SEQ ID NO 1 or a nucleotide sequence having at least 70% sequence identity to SEQ ID NO 1 and/or wherein the variable light chain of the anti-idiotypic antibody is encoded by the nucleotide sequence depicted in SEQ ID NO 3 or a
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nucleotide sequence having at least 70% sequence identity with SEQ ID NO 3.

- 5 8. The monoclonal anti-idiotypic antibody according to any of claims 1 to 6, which is an F(Ab')₂ fragment, an Fab' fragment, an Fab fragment, or a modified version of said fragment.
9. The monoclonal anti-idiotypic antibody according to any of claims 1 to 7,
10 which is a humanized monoclonal anti-idiotypic antibody.
10. The monoclonal anti-idiotypic antibody according to any of claims 1 to 9, which is 14C12 or an antibody derived therefrom.
- 15 11. An isolated and purified peptide having an amino acid sequence selected from SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10 being at least 70 % identical in amino acid sequence to a peptide with an amino acid sequence selected from SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 and SEQ
20 ID NO:10.
12. A monoclonal cell line expressing a monoclonal anti-idiotypic antibody in accordance with any of claims 1 to 10.
- 25 13. The monoclonal cell line in accordance with claim 12, which is the cell line 14C12 deposited at BCCM with Accession Number LMBP 5878CB.
14. A pharmaceutical composition comprising a monoclonal anti-idiotypic
30 antibody according to any of claims 1 to 10, or an isolated and purified peptide according to claim 12 in admixture with at least one pharmaceutically acceptable carrier.

15. Use of a monoclonal anti-idiotypic antibody according to any one of claims 1 to 10 or an isolated and purified peptide according to claim 12 as a medicine.
- 5 16. A method of treating patients suffering from the effects of FVIII inhibitory antibodies, said method comprising, administering to said patient a therapeutically effective dose of the pharmaceutical composition according to claim 14.
- 10 17. A method of treatment or prevention of uncontrolled bleeding in a patient with FVIII inhibitory antibodies, said method comprising administering to said patient a therapeutically effective dose of the pharmaceutical composition according to claim 14.
- 15 18. The method according to claim 17, which further comprises administering to said patient FVIII.
19. The method of any one of claims 16 to 18, wherein said patient is a haemophiliac.
- 20 20. A method for developing monoclonal anti-idiotypic antibodies for the manufacture of a medicament against FVIII inhibitors, said method comprising immunizing an animal with inhibitory antibodies directed against the C2 domain of factor 8 and screening the immortalized spleen cells of said animal for the production of antibodies which a) neutralise the anti-coagulant activity of FVIII inhibitors for at least 50% and b) do not interact with the binding of FVIII to vWF and phospholipids.
- 25 21. The use of the anti-idiotypic antibodies of any one of claims 1 to 10 for the detection or purification of inhibitory FVIII antibodies.
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